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TITLE: Electroconductive hydrolysis-resistant polyester compositions, monofilaments, industrial fabrics, and their manufacture

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AB The compns. show sp. resistivity  $\leq 10^8$   $\Omega$ -cm and contain (A) polyesters having 5 equiv/106 g  $\cdot$  terminal group  $\text{CO}_2\text{CH}_2\text{CH}(\text{OX})\text{R}$  and/or  $\text{CO}_2\text{CH}_2\text{CH}(\text{OX})\text{CH}_2\text{OR}$  [R = H, (substituted) N-methylenephthalimide, C1-20 alkyl, (substituted) Ph, cycloalkyl; X = H, **carbodiimide** reaction residue], (B) 0.005-1.5% unreacted **carbodiimides**, and (C) elec. conductors, preferably 4-15% **carbon black**. The compns. are manufd. by kneading polyesters with epoxides I and/or II (R = same as above) and elec. **conductive carbon black**, followed by kneading with **carbodiimides**. Their monofilaments and fabrics are also claimed. Thus, poly(butylene terephthalate), Denacol EX 731, and Ketjen EC (**conductive carbon black**) were kneaded at ratio 87:3:10 and temp. 275.degree., extruded, pelletized, kneaded with N,N'-di-2,6-diisopropylphenylcarbodiimide at ratio 100:1.5 and temp. 280.degree., spun, cooled in a 80.degree.-bath, drawn, and set to give a 0.4 mm diam. monofilament showing sp. resistivity  $3.4 \cdot 10^2$   $\Omega$ -cm.

IT Electric conductors  
(**carbon black**; electroconductive hydrolysis-resistant polyester compns. and monofilaments and industrial fabrics and their manuf.)

IT Nonwoven fabrics  
(core-sheath fiber for; electroconductive hydrolysis-resistant polyester compns. and monofilaments and industrial fabrics and their manuf.)

IT Polyester fibers, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(core-sheath, bicomponent; electroconductive hydrolysis-resistant polyester compns. and monofilaments and industrial fabrics and their manuf.)

- IT **Carbon black, uses**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(electroconductive hydrolysis-resistant polyester compns. and monofilaments and industrial fabrics and their manuf.)
- IT Polyester fibers, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(fabrics, with terminals modified with **carbodiimides** and epoxides; electroconductive hydrolysis-resistant polyester compns. and monofilaments and industrial fabrics and their manuf.)
- IT Polyesters, uses  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(reaction products, with N-glycidylphthalimide and N,N'-di-2,6-diisopropylphenylcarbodiimide; electroconductive hydrolysis-resistant polyester compns. and monofilaments and industrial fabrics and their manuf.)
- IT Polyester fibers, uses  
Polyesters, uses  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(with terminals modified with **carbodiimides** and epoxides; electroconductive hydrolysis-resistant polyester compns. and monofilaments and industrial fabrics and their manuf.)
- IT 2162-74-5DP, reaction products with poly(butylene terephthalate) and N-glycidylphthalimide 5455-98-1DP, reaction products with poly(butylene terephthalate) and N,N'-di-2,6-diisopropylphenylcarbodiimide 7144-65-2DP, reaction products with poly(butylene terephthalate) and N-glycidylphthalimide 24968-12-5DP, reaction products with N-glycidylphthalimide and N,N'-di-2,6-diisopropylphenylcarbodiimide 25038-59-9DP, reaction products with N-glycidylphthalimide and N,N'-di-2,6-diisopropylphenylcarbodiimide 26062-94-2DP, reaction products with N-glycidylphthalimide and N,N'-di-2,6-diisopropylphenylcarbodiimide 66027-02-9DP, reaction products with N-glycidylphthalimide and N,N'-di-2,6-diisopropylphenylcarbodiimide  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(electroconductive hydrolysis-resistant polyester compns. and monofilaments and industrial fabrics and their manuf.)